

Record of a Creek Chub, *Semotilus atromaculatus*
(Cypriniformes: Cyprinidae), Preying on a Jumping Mouse
(Zapodidae) in Bruffey Creek, Pocahontas County,
West Virginia

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ABSTRACT—In Bruffey Creek, West Virginia, we collected a creek chub, *Semotilus atromaculatus*, that had consumed a jumping mouse (Zapodidae). Small mammals have not been reported in the diet of creek chubs.

On 30 September 1995, while capturing fishes in Bruffey Creek as part of a study involving Bruffey-Hills Creek Cave fishes, we collected a creek chub, *Semotilus atromaculatus* (Mitchill), excreting the remains of a rodent. We preserved the creek chub and remains for later identification. The creek chub measured 156.6 mm SL, 189.0 mm TL, 16.5 mm gape width, 46.2 mm head length, and 37.8 mm body depth. The skeleton of the prey was intact except for the skull. Fur and internal organs were still present as well. Examination of the creek chub's gut revealed no sign of the skull. Since the mouse was being excreted tail first, we believe the head was severed and expelled during ingestion. The feet were completely intact, and the tail appeared to be undigested as well, but also apparently had been broken. Based on feet (24.9 and 25.1 mm) and tail (88.2 mm) lengths the mouse was a jumping mouse (Zapodidae), either meadow jumping mouse, *Zapus hudsonius* (Zimmerman) or woodland jumping mouse, *Napaeozapus insignis* (Miller). A specific determination can not be made without the skull.

S. atromaculatus food habits have been studied by a number of investigators, and food items include algae, plant material, terrestrial and aquatic insects, Mollusca, Crustacea, fishes, and frogs (Forbes 1888; Hankinson 1910; Forbes and Richardson 1920; Leonard 1927;

Greeley 1930; Sibley and Rimsky-Korsakoff 1931; Hubbs and Cooper 1938; Simpson 1941; Dobie et al. 1948; Starrett 1948; Dinsmore 1962; Minckley 1963; Barber and Minckley 1971; Moshenko and Gee 1973; Newsome and Gee 1978; Copes 1978; Johnson and Johnson 1982; Magnan and FitzGerald 1982, 1984; Angermeier 1982, 1985; Keast 1985; Garman and Moring 1993); however, no mammalian remains were reported in these studies. Dobie et al. (1948:91) remarked: "The northern creek chub seems to eat anything that comes its way." We found one record of cyprinids feeding on mammals: flathead chub (*Platygobio gracilis* (Richardson)) eating a small rodent (McPhail and Lindsey 1970). Larger predatory fishes such as northern pike (*Esox lucius* Linnaeus) and muskellunge (*E. masquinongy* Mitchill) have been known to consume small mammals or birds (Anderson 1948, Lawler 1965). In the early 1990s, one boreal red-backed vole (*Clethrionomys gapperi* (Vigors)) was found in a smallmouth bass (*Micropterus dolomieu* Lacepède) from Lake Saganaga, Minnesota/Ontario (David A. Etnier, University of Tennessee, personal communication). A green sunfish (*Lepomis cyanellus* Rafinesque), preyed on a Mexican free-tailed bat (*Tadarida mexicana* (Saussure)) in a Texas cave (Jones and Hettler 1959), and goldeye (*Hiodon alosoides* (Rafinesque)) are known to consume small mammals as well (Dymond and Hart 1927, Scott and Crossman 1973). Quimby (1951) reported *E. lucius* preying on a *Z. hudsonius* in Minnesota. *Z. hudsonius* has been reported to swim and dive underwater to avoid capture (Quimby 1951, Hoffmeister 1989, references in Krutzsch 1954) and is often found near water. Such an "affinity" for water would explain why this mouse is occasionally preyed upon by fishes. The creek chub and mouse remains have been catalogued in the Southern Illinois University at Carbondale Fish Collection (SIUC 24849).

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Note added after typesetting: *N. insignis* and 5 other small mammals have been reported in the diet of largemouth bass (*Micropterus salmoides* (Lacépède)) by J. R. Hodgson and M. J. Kinsella (1995). Small mammals in the diet of largemouth bass, revisited. Journal of Freshwater Ecology 10:433-435).